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PATENT
Docket No. 1002.2.72

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellant:	Larry Stevens)
)
Serial No.:	09/228,325)
)
Filed:	January 11, 1999)
)
For:	SYSTEM AND METHOD FOR BONDING AN ACRYLIC SURFACE TO A FRAME)
)
Examiner:	Michael Chambers)

APPELLANT'S APPEAL BRIEF

Assistant Commissioner
for Patents
Washington, D.C. 20231

Sir:

On October 11, 2001, Appellant filed a timely Notice of Appeal from the Final Office Action mailed April 11, 2001. Appellant appeals from the rejection of all pending claims.

This Brief is being filed in triplicate under the provisions of 37 C.F.R. § 1.192. The filing fee set forth in 37 C.F.R. § 1.17(c) of Three Hundred Twenty Dollars (\$320.00) is now being submitted. The Commissioner is hereby authorized to charge payment of any additional fees associated with this communication, or to credit any overpayment, to Deposit Account No. 13-0763.

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1. REAL PARTY IN INTEREST

The real party in interest is the assignee, Lifetime Products, Inc., Clearfield, Utah.

2. RELATED APPEALS AND INTERFERENCES

There are no related appeals and interferences.

3. STATUS OF CLAIMS

The Final Office Action rejected claim 1 under 35 U.S.C. § 103(a) as being obvious over Hying et al. (U.S. Pat. No. 5,839,982) in view of Dow Corning Datasheet. The Final Office Action rejected claims 2-18 [*sic*, 2 and 4-18] under 35 U.S.C. § 103(a) as being unpatentable over Hying et al. in view of the Dow Corning Datasheet and further in view of Nunes and 3M-data. Claim 3 was cancelled. Appellant appeals the rejection of pending claims 1, 2, and 4-18.

4. STATUS OF AMENDMENTS

An Amendment and Response to Final Office Action was submitted September 11, 2001. Attached to the Amendment was a Declaration of Jerry Ward Under 37 C.F.R. 1.132 and a Declaration of S. Curtis Nye Under 37 C.F.R. 1.132. The Examiner issued an Advisory Action dated October 9, 2001 indicating that the claim Amendments would be entered upon appeal. A copy of the pending claims, as amended, is attached in the Appendix.

5. SUMMARY OF INVENTION

By way of background, the presently claimed invention is directed to an acrylic basketball backboard assembly sized and configured for playing the game of basketball. Prior to the present invention, acrylic basketball backboards were bonded to a backboard frame structure with double-sided tape. Specification, page 2, lines 3-8; *see also* Hying et al., column 2, lines 13-16. Manufacturing acrylic basketball backboard assemblies with double-sided tape is very labor intensive. Specification, page 2, lines 9-14. Furthermore, such acrylic backboard assemblies are subject to occasional adhesive failure.

The presently claimed basketball backboard assembly includes a basketball backboard frame structure and an acrylic backboard which are bonded together with a catalyzed elastomeric adhesive. Specification, page 2, lines 22-27; page 3, lines 9-10.

The claimed elastomeric adhesive provides sufficient adhesion and flexibility to the acrylic backboard and frame structure bonding surfaces to be used in the game of basketball. Specification, page 1, lines 21-25; page 3, lines 15-17. Silicone adhesive is a currently preferred elastomeric adhesive because of its excellent adhesion and flexibility and low cost. Specification, page 2, line 27, page 3, lines 1-2; claims 4 and 14.

Appellant found that the bond gap affects adhesion and flexibility. A currently preferred adhesive bond gap may range from about 2 to 2.5 mm. Specification, page 3, lines 23-24; claims 2 and 14. A bond gap spacer positioned between the frame bonding surface and the acrylic backboard may be used to control the adhesive bond gap. A variety of different bond gap spacers can be used such as spherical beads, including glass microspheres and plastic beads, and weed trimmer line. Specification, page 4, lines 2-4; page 6, lines 6-11; claims 7, 8, 9, 14, 16, and 17. Glass microspheres having a diameter in the range from about 2 to 2.5 mm (0.08 to 0.1 inch) function very well. Specification, page 6, lines 8-10; claims 10 and 18. The bond gap spacer should have a rigid structure of the desired thickness which can maintain the gap between the frame and backboard bonding surface. Specification, page 6, lines 3-6.

The elastomeric adhesive may be a two-part catalyzed adhesive in which the two parts are combined in a ratio to provide a set time in the range from about 5 minutes to 1 hour, and more preferably from about 7 to 15 minutes. Specification, page 6, lines 21-24; claims 5, 6, 14, and 15.

6. ISSUES

The following issues are presented for review:

I. Did the Examiner fail to establish *prima facie* obviousness of claim 1 where the cited prior art references in combination as a whole, do not motivate or suggest the claimed invention, and where no reasonable expectation that the claimed invention would succeed is found in the cited prior art?

II. Does the primary reference, Hying et al., teach away from the claimed invention where it states at column 2, lines 16-15 and 24-27 that the most notable disadvantage of double-sided tape acrylic backboard construction "is the use of adhesive material" and teaches that double-sided tape be replaced with non-adhesive plastic retainers?

III. Did the Examiner fail to establish *prima facie* obviousness of claims 2 and 4-18 where the cited prior art references in combination as a whole, do not motivate or suggest the claimed invention, and where no reasonable expectation that the claimed invention would succeed is found in the cited prior art?

IV. Did the Examiner misapply Section 103(a) when he indicated that Appellant had the burden of proving "that one skilled in the art would not be aware of various forms of attachment means," i.e., adhesives?

V. Does the evidence set forth in the Declaration of Jerry Ward of superior mechanical performance and huge manufacturing cost and labor savings associated with the present invention demonstrate the non-obviousness of the claimed invention?

VI. Does the evidence set forth in the Declaration of S. Curtis Nye that a competitor has copied Appellant's invention demonstrate the non-obviousness of the claimed invention?

7. GROUPING OF CLAIMS

The Examiner rejected claim 1 individually. The allowability of claim 1 will, of course, require allowability of the remaining claims and greatly simplify the appeal. Of claims 2 and 4-18, which were rejected as a group, independent claim 14 includes the limitations of claims 1, 2, 4, 6, and 7, and stands separate from claims 2-13. Similarly, claims 15-18, which depend from claim 14, stand separate from claims 2-13. In the interest of reducing issues, claims 11 and 12 stand or fall together with claim 1; claims 5 and 6 stand or fall together; claims 7-9 stand or fall together; and claims 16 and 17 stand or fall

together. The remaining claims do not stand or fall together, and arguments why they are separately patentable are provided in the "Argument" section below.

8. ARGUMENT

I. Claim 1 would not have been obvious under 35 U.S.C. § 103(a) because Hying et al. and Dow Corning Datasheet do not motivate or suggest a basketball backboard assembly containing a catalyzed elastomeric adhesive sandwiched between the frame bonding surface and the backboard bonding surface as claimed and because no reasonable expectation that the claimed invention would succeed is found in the cited prior art.

The prior art. The two references combined to reject the claims under Section 103(a) are summarized below.

Hying et al. Hying et al. ("Hying") discloses an acyclic basketball backboard assembly in which the acrylic backboard is secured to a metal frame using plastic retainers clipped onto the frame. Like the Appellant, Hying discloses the conventional use of double-sided tape to secure an acrylic backboard to a metal frame. Hying, column 2, lines 13-16; Figure 2. According to Hying, this type of frame construction suffers certain drawbacks and disadvantages, "[m]ost notably ... the use of adhesive material." Hying, column 2, lines 24-28. Hying "avoids the disadvantages and drawbacks of the above-described prior art" by replacing the double-sided tape with molded plastic retainers. Hying, column 2, lines 66-67 through column 3, lines 1-6. Thus, the invention disclosed and claimed by Hying does not use any adhesive, and in fact, teaches against the use of adhesive.

Dow Corning Datasheet. The "Dow Corning Datasheet" is a product datasheet describing characteristics and uses for Dow Corning Q3-6093 catalyzed silicon adhesive. Dow Corning Q3-6093 was "developed for a variety of high technology bonding, sealing and encapsulating applications." The Dow Corning Datasheet does not teach, suggest, or motivate replacing double-sided tape in any application with silicone adhesive. The Dow Corning Datasheet does not teach that silicone adhesive is "equivalent" to double-sided tape for any application. The Dow Corning Datasheet does not teach or suggest that catalyzed silicone adhesive can be used to bond an acrylic basketball backboard to a frame structure

and provide "sufficient adhesion and flexibility to the acrylic backboard and frame structure bonding surfaces to be used in the game of basketball."

Summary of the Prior Art. Like the Appellant, Hying recognized that there are disadvantages associated with double-sided tape to fabricate acrylic basketball backboard assemblies. However, rather than suggest an alternative, workable adhesive, Hying taught persons skilled in the art to eliminate use of adhesives and to utilize non-adhesive plastic retainers. The Dow Corning Datasheet is merely a product datasheet containing information about a particular catalyzed silicone adhesive. It fails to teach, suggest, or motivate replacing double-sided tape with catalyzed silicone adhesive in an acrylic basketball backboard assembly.

Prima Facie Obviousness. According to MPEP 2143, to establish *prima facie* obviousness, there must be some suggestion or motivation to modify the reference or to combine reference teachings to arrive at the claimed invention. "The teaching or suggestion to make the claimed combination ... must be found in the prior art, not in applicant's disclosure." MPEP 2143, citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). "The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination." MPEP 2143.01, citing *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990).

In the present case, the cited prior art fails to suggest the desirability of the combination. Only Appellant's specification suggests the desirability of the combination. The cited Hying and Dow Corning Datasheet references teach isolated claim limitations, but fail to disclose, suggest, or motivate modifying the Hying device to arrive at the claimed invention *as a whole*. It is "impermissible to use the claims as a frame and the prior art references as a mosaic to piece together a facsimile of the claimed invention." *Uniroyal v. Rudkin-Wiley*, 5 USPQ2d 1434, 1438 (Fed. Cir. 1988) (citing *W. L. Gore & Associates v. Garlock, Inc.*, 220 USPQ 303, 312). Yet that is exactly what the final rejection did.

Prima facie obviousness requires that the prior art teach or suggest the whole invention as claimed. As the Federal Circuit has explained:

It is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one skilled in the art. *Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve, Inc.*, 796 F.2d 443, 448, 230 USPQ 416 (Fed. Cir. 1986) (quoting *In re Wesslau*, 353 F.2d 238, 241, 147 USPQ 391, 393 (CCPA 1965)).

The Examiner rejected claim 1 by picking and choosing isolated teachings from the Hying and Dow Corning Datasheet references and pasting them together to recreate the claim. The Examiner's stated rationale "to prevent injury to the players if the attachment means failed" is not supported by the cited prior art. The Hying patent does not suggest one skilled in the art should use an alternative adhesive "to prevent injury to the players." Instead, Hying expressly teaches and suggests eliminating the adhesive altogether and using non-adhesive plastic retainers. Thus, Hying motivates one of ordinary skill in the art to use plastic retainers and NOT to use an alternative adhesive.

Furthermore, there is no evidence in the record that one skilled in the art knew Dow Corning's catalyzed elastomeric was equivalent and substitutable for Hying's conventional double-sided tape. Merely because Dow Corning's adhesive was commercially available does not automatically mean that one skilled in the art knew it could be used to successfully fabricate an acrylic basketball backboard with "sufficient adhesion and flexibility to the acrylic backboard and frame structure bonding surfaces to be used in the game of basketball" as claimed.

Moreover, merely because Dow Corning's adhesive was commercially available does not automatically mean that one skilled in the art would have been motivated to substitute it for Hying's double-sided tape. The Dow Corning datasheet does not suggest its silicone adhesive can or should be substituted for double-sided tape in an acrylic basketball backboard assembly.

A significant part of the instant invention was Appellant's discovery that a suitable elastomeric adhesive could successfully replace double-sided tape in fabricating acrylic basketball backboards. This was not "obvious" to the basketball backboard industry, particularly Hying who was working for one of the industry leaders. Since there is no evidence in the cited prior art that Dow Corning's elastomeric adhesive was a known

equivalent or substitute for Hying et al.'s double-sided table, Appellant submits that Hying et al. and Dow Corning Datasheet fail to provide a reasonable expectation of success.

Merely because double-sided tape is known and catalyzed silicon adhesive is known does not mean that it would have been obvious to replace one with the other. "There must be some reason, suggestion, or motivation found in the prior art whereby a person of ordinary skill in the field of the invention would make the combination" and "[t]hat knowledge cannot come from the applicant's invention itself." *In re Oetiker*, 24 U.S.P.Q.2d 1443, 1446 (Fed. Cir. 1992). In this case, none of the cited prior references suggests replacing double-sided tape with catalyzed elastomeric adhesive, as claimed, to achieve the unique properties and advantages disclosed by Appellant.

No Prima Facie Obviousness Established. In view of the foregoing, the Examiner has not properly established *prima facie* obviousness of claim 1. Appellant respectfully requests reversal of the Section 103(a) rejection and allowance of claim 1.

II. The primary reference, Hying et al., teaches away from the claimed invention where it states at column 2, lines 16-15 and 24-27 that the most notable disadvantage of double-sided tape acrylic backboard construction "is the use of adhesive material" and teaches that double-sided tape be replaced with non-adhesive plastic retainers.

As discussed above, *prima facie* obviousness is established if the prior art would have suggested to one of ordinary skill in the art to modify the prior art in order to arrive at the claimed invention, and that there was a reasonable expectation that the modification would have yielded the claimed invention. *In re Dow Chemical*, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988). "In determining whether such a suggestion can be fairly gleaned from the prior art, the full field of the invention must be considered ... including that which might lead away from the claimed invention." *Id.* at 1531-32.

The Court of Appeals for the Federal Circuit has consistently held it to be reversible error to find that an invention would have been obviousness where references "diverge from and teach away from the invention." *W. L. Gore & Assoc. v. Garlock, Inc.*, 721 F.2d 1540, 1550, 220 U.S.P.Q. 303, 311 (Fed. Cir. 1983). In the case of *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988), the Federal Circuit reversed a Section 103 rejection

where it found that the claims in question had been improperly rejected on the basis of prior art references in the face of contrary teachings contained in those references.

In the present case, Hying teaches that double-sided tape should be replaced with non-adhesive plastic retainers. In contrast, Appellant teaches that Hying's double-sided tape should be replaced with suitable catalyzed elastomeric adhesive. Appellant submits that Hying teaches away from the claimed invention.

The Examiner relied upon Hying's disclosure of "prior art" double-sided tape (Figure 2; column 2, lines 15-16), but ignored the entire thrust of the Hying patent, which is that double-sided tape suffers from drawbacks and disadvantages, "[m]ost notably, ... the use of adhesive material, which may not be strong enough to retain the acrylic sheet against the frame for an extended period." Hying, column 2, lines 24-28. Hying's solution to the problem of double-sided tape is to use non-adhesive plastic retainers to hold the acrylic backboard. Hence, Hying "fairly suggests to one skilled in the art" to use non-adhesive plastic retainers to hold the acrylic backboard and not to use an alternative adhesive.

In view of the foregoing, it is evident Hying teaches away from the claimed invention and fails to support a rejection under Section 103(a).

III. Claims 2 and 4-18 would not have been obvious under 35 U.S.C. § 103(a) because Hying et al., Dow Corning Datasheet, Nunes, and 3M data do not motivate or suggest a basketball backboard assembly containing a catalyzed elastomeric adhesive sandwiched between the frame bonding surface and the backboard bonding surface and the other dependent claim features as claimed and because no reasonable expectation that the claimed invention would succeed is found in the cited prior art.

Claims 2 and 4-13 depend from claim 1, and claims 15-18 depend from claim 14. "If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious." MPEP 2143.03, citing *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). Therefore, if claims 1 and 14 are nonobvious, then claims 2, 4-13 and 15-18 are nonobvious.

Additional prior art. The Nunes patent and 3M-data references were combined with the Hying et al. patent and the Dow Corning Datasheet reference to reject the claims under Section 103(a). The additional references are summarized below.

Nunes. The Nunes patent discloses a novelty desk lamp and clock in the form of a "simulated" or "miniature basketball backboard." Nunes does not disclose or suggest a "basketball backboard assembly sized and configured for playing the game of basketball." Appellant submits that one having ordinary skill in the art would not consider "desk lamp" prior art to be reasonably pertinent to the field of fabricating acrylic basketball backboard assemblies. Moreover, Nunes has nothing to do with the problems faced by Appellant in successfully bonding an acrylic backboard to a frame structure. According to MPEP 2141.01(a), Nunes is nonanalogous art because it is neither "in the field of applicant's endeavor" or "reasonably pertinent to the particular problem with which the inventor was concerned."

Nunes teaches that graphics can be imprinted on the miniature backboard. "The graphics preferably are basketball team indicating graphics, such as 'Toronto Raptors', 'Northwestern Wildcats', or the like, in words, logo, or both words and logo." Nunes; column 4, lines 15-18. Nunes, does not disclose or suggest printing an image on a "backboard bonding surface." In fact, Nunes, fails to disclose a backboard bonding surface that receives an elastomeric adhesive. In addition, the Nunes patent does not disclose or suggest the use of "indicia or position marks" on the backboard to facilitate placing the adhesive and frame during assembly, contrary to the Examiner's final rejection.

3M data. The "3M data" includes information from 3M's internet website. The "Application-Market Matrix" table reports applications for 3M™ Microspheres in various industries. The Matrix identified caulks, plastisol, and radiation curable adhesives as possible "adhesive and sealant" applications of 3M™ Microspheres. "3M data" includes two tables, "Product Descriptions, 3M™ Zeeospheres™ Ceramic Microspheres" and "3M™ Microspheres for Specialty Coatings," which disclose particle sizes ranging from 12 microns (0.012 mm) to 350 microns (0.350 mm). At this size range, 3M's Microspheres and Zeeospheres may be used as *fillers*, but not as bond gap spacers.

Claim 2. Pursuant to 37 C.F.R. § 1.192(c)(5), Appellant submits that claim 2 would not have been obvious from the combined teachings of the prior art references because none of the prior art references teach, motivate, or suggest the features of claim 1 in combination with the claimed bond gap range. More specifically, none of the cited references discloses the claimed bond gap range of 2 to 2.5 mm. The Examiner

erroneously relied on the "3M data" to support this rejection. Appellant has carefully reviewed the "3M data" and has been unable to locate, and the Examiner has neglected to identify, where the "3M data" discloses the claimed bond gap range. Furthermore, the "3M data" lacks any teaching, suggestion, or motivation to provide a bond gap in an acrylic basketball backboard assembly or to use microspheres as bond gap spacers.

The "3M data" reference teaches that 3M's microspheres are used as fillers in adhesives. But a "filler" is not a "bond gap" or "bond gap spacer." Moreover, the particle sizes reported in the 3M data tables "Product Descriptions, 3M™ Zeeospheres™ Ceramic Microspheres" and "3M™ Microspheres for Specialty Coatings," disclose particle sizes ranging from 12 microns (0.012 mm) to 350 microns (0.350 mm). These disclosed particle sizes are too small to enable them to function as bond gap spacers to produce a bond gap ranging from about 2 mm to 2.5 mm in accordance with the claimed invention.

The specification (page 3, lines 15-24; page 5, lines 16-27; and page 6, lines 1-11) explains the desirability of providing a controlled elastomeric adhesive bond gap. The cited prior art references neither disclose nor suggest the elastomeric adhesive bond gap range of claim 2. MPEP 2143.03 states:

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

Since all of the claim limitations of claim 2 are not taught or suggested by the prior art, *prima facie* obvious has not been established. Reversal of the rejection and allowance of claim 2 is respectfully requested.

Claim 4. Pursuant to 37 C.F.R. § 1.192(c)(5), Appellant submits that claim 4 would not have been obvious from the combined teachings of the prior art references because none of the prior art references teach, motivate, or suggest the features of claim 1 in combination with the claimed catalyzed silicon adhesive. See discussion with regard to claim 1, above. In addition, the Rule 132 Declarations of Jerry Ward and S. Curtis Nye, discussed below, establish the non-obviousness of claim 4.

Claims 5-6. Pursuant to 37 C.F.R. § 1.192(c)(5), Appellant submits that claims 5 and 6 would not have been obvious from the combined teachings of the prior art references because none of the prior art references teach, motivate, or suggest the features of claim 1 in combination with the claimed two-part catalyzed adhesive that provides the claimed set times.

Appellant has carefully reviewed the cited prior art, and the prior art references in combination fail to teach, motivate, or suggest a basketball backboard assembly fabricated with a two-part catalyzed elastomeric adhesive in which the two parts are combined in a ratio to provide a set time in the range from about 5 minutes to 1 hour and a set time in the range from about 7 to 15 minutes.

According to MPEP 2143.03, "all the claim limitations must be taught or suggested by the prior art." In this case, the subject matter of claims 5 and 6 is not taught or suggested by any of the cited prior art. The Examiner has not identified any teaching in the cited prior of the claimed set times.

In rejecting the claims, the Examiner reasoned that one skilled in the art would follow manufacturer instructions to adjust the set time and that claims 5 and 6 merely recite applying the manufacturer's instructions. Appellant respectfully disagrees. The Dow Corning datasheet does not teach or suggest using a two-part catalyzed silicone adhesive to fabricate acrylic basketball backboards. Moreover, Dow Corning does not teach or suggest that the catalyzed silicone adhesive used in the acrylic basketball backboards should have a set time in the range from about 5 minutes to 1 hour or 7 to 15 minutes.

The Examiner's rejection (page 3) confused the relevant question of whether the prior art disclosed or suggested the claimed set time with the irrelevant question of whether one skilled in the art could mix a two-part catalyzed silicone adhesive to achieve a given set time. The first question is one of obviousness under Section 103(a), the second question is one of enablement under Section 112(a). Appellant agrees with the Examiner that one skilled in the art could mix a two-part catalyzed silicon adhesive to achieve a given set time, but this does not mean the claimed set time ranges would have been obvious under Section 103(a).

Because none of the cited prior art references, individually or in combination, discloses, suggests, or motivates a basketball backboard according to claim 1 wherein the

elastomeric adhesive is a two-part catalyzed adhesive in which the two parts are combined in a ratio to provide a set time in the range from about 7 to 15 minutes or from 5 minutes to 1 hour, claims 5 and 6 are not properly rejected under Section 103(a). Reversal of the rejection and allowance of these claims is respectfully requested.

Claims 7-9. Pursuant to 37 C.F.R. § 1.192(c)(5), Appellant submits that claims 7-9 would not have been obvious from the combined teachings of the prior art references because none of the prior art references teach, motivate, or suggest the features of claim 1 in combination with the claimed bond gap spacers.

The foregoing arguments in relation to claim 2, above, are incorporated herein. In particular, none of the cited references, individually or in combination, recognizes the importance of providing a controlled bond gap by utilizing a bond gap spacer. "3M data" contains no teaching, suggestion, or motivation to use its microspheres as bond gap spacers. 3M's microspheres are sized for use as a *filler* in adhesives and coatings, not as *bond gap spacers*. Claims 7-9 were improperly rejected under Section 103(a). Reversal of the rejection and allowance of claims 7-9 is respectfully requested.

Claim 10. Pursuant to 37 C.F.R. § 1.192(c)(5), Appellant submits that claim 10 would not have been obvious from the combined teachings of the prior art references because none of the prior art references teach, motivate, or suggest the features of claim 1 in combination with the claimed glass microsphere diameter size range from about 2 to 2.5 mm.

The foregoing arguments in relation to claim 2, above, are incorporated herein. In particular, the particle sizes reported in "3M data" are well outside the claimed size range. See, 3M data tables "Product Descriptions, 3MTM ZeeospheresTM Ceramic Microspheres" and "3MTM Microspheres for Specialty Coatings," which disclose particle sizes ranging from 12 microns (0.012 mm) to 350 microns (0.350 mm).

Given that the cited prior art fails to disclose, suggest, or motivate the subject matter of claim 10, claim 10 was improperly rejected under Section 103(a). Reversal of the rejection and allowance of claim 10 is respectfully requested.

Claim 13. Pursuant to 37 C.F.R. § 1.192(c)(5), Appellant submits that claim 13 would not have been obvious from the combined teachings of the prior art references

because none of the prior art references teach, motivate, or suggest the features of claim 1 in combination with the backboard "bonding surface" containing a printed image.

As discussed in the specification at page 7, lines 7-27, to fabricate the acrylic basketball backboard assembly of the present invention, the acrylic backboard bonding surface is prepared to receive the elastomeric adhesive. This typically involves a chemical treatment to break the surface tension of the acrylic surface. Appellant has discovered that when the acrylic backboard bonding surface contains a printed image, the printing itself provides an adequate surface preparation for the elastomeric adhesive such that a separate backboard surface preparation step is not necessary.

In rejecting claim 13, the Examiner relied upon the disclosure of Nunes. The Nunes patent does not disclose or suggest printing an image on a "backboard bonding surface." In fact, Nunes, fails to disclose a backboard bonding surface. Moreover, the Nunes patent does not disclose or suggest the use of indicia or position marks on the backboard to facilitate placing the adhesive and frame during assembly contrary to the Examiner's argument.

Because the cited prior art fails to disclose, suggest, or motivate the subject matter of claim 13, claim 13 was improperly rejected under Section 103(a). Reversal of the rejection and allowance of claim 13 is respectfully requested.

Claim 14. Pursuant to 37 C.F.R. § 1.192(c)(5), Appellant submits that claim 14 would not have been obvious from the combined teachings of the prior art references because none of the prior art references, individually or in combination, teach, motivate, or suggest each and every claimed feature of claims 1, 2, 4, 6, and 7. The above discussions relating to claims 1, 2, 4, 6, and 7 are incorporated herein. Since "all the claim limitations" are not taught or suggested by the prior art according to MPEP 2143.03, *prima facie* obviousness was not properly established. Reversal of the rejection and allowance of claim 14 is respectfully requested.

Claim 15. Pursuant to 37 C.F.R. § 1.192(c)(5), Appellant submits that claim 15 would not have been obvious from the combined teachings of the prior art references because none of the prior art references, individually or in combination, teach, motivate, or suggest each and every claimed feature of claim 14 in combination with the claimed set time of from about 7 to 15 minutes. The above discussion relating to claims 5, 6, and 14

are incorporated herein. Neither Hying, Dow Corning Datasheet, Nunes, nor 3M data teaches, motivates, or suggest the claimed set time from 7 to 15 minutes. Since "all the claim limitations" are not taught or suggested by the prior art according to MPEP 2143.03, *prima facie* obviousness was not properly established. Reversal of the rejection and allowance of claim 15 is respectfully requested.

Claims 16-17. Pursuant to 37 C.F.R. § 1.192(c)(5), Appellant submits that claims 16-17 would not have been obvious from the combined teachings of the prior art references because none of the prior art references, individually or in combination, teach, motivate, or suggest each and every claimed feature of claim 14 in combination with the claimed bond gap spacers. The above discussion relating to claims 7, 9, and 14 are incorporated herein. Neither Hying, Dow Corning Datasheet, Nunes, nor 3M data teaches, motivates, or suggest the claimed bond gap spacers. The "3M data" contains no teaching, suggestion, or motivation to use its microspheres as bond gap spacers. They are sized for use as a filler in adhesives and coatings, not as bond gap spacers. *Prima facie* obviousness was not properly established. Reversal of the rejection and allowance of claims 16 and 17 is respectfully requested.

Claim 18. Pursuant to 37 C.F.R. § 1.192(c)(5), Appellant submits that claim 18 would not have been obvious from the combined teachings of the prior art references because none of the prior art references, individually or in combination, teach, motivate, or suggest each and every claimed feature of claim 14 in combination with the claimed glass microsphere diameter range. The above discussion relating to claims 10 and 14 is incorporated herein. In particular, "3M data" discloses glass microspheres having a diameter well outside the claimed size range. Because "all the claim limitations" are not taught or suggested by the prior art according to MPEP 2143.03, *prima facie* obviousness was not properly established. Reversal of the rejection and allowance of claim 18 is respectfully requested.

IV. The Examiner misapplied Section 103(a) when he indicated that Appellant had the burden of proving "that one skilled in the art would not be aware of various forms of attachment means," i.e., adhesives.

Appellant submitted a detailed response to the final Office Action on September 11, 2001. Appellant's response included Declarations under Rule 132 by Jerry Ward and S. Curtis Nye presenting evidence of non-obviousness. On October 9, 2001, the Examiner issued an Advisory Action containing a one-sentence reply to Appellant's response and declaration evidence:

The affidavits do not provide sufficient documentation that one skilled in the art would not be aware of various forms of attachment means.

The Examiner's reply demonstrates a profound misunderstanding of 35 U.S.C. § 103(a) and the relevant issues relating to obviousness determinations under Section 103(a).

The basic requirements for establishing *prima facie* obviousness under Section 103(a) are set forth in MPEP 2143, some of which are discussed above. Three basic criteria must be met:

- (1) There must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine the reference teachings.
- (2) There must be a reasonable expectation of success.
- (3) The prior art references must teach or suggest all the claim limitations.

As discussed above in Sections I-III, the Examiner failed to establish *prima facie* obviousness of the rejected claims. To expedite allowance of the claims, Appellant submitted Declaration evidence of superior mechanical performance and huge manufacturing cost and labor savings associated with the present invention compared to the closest prior art, as well as evidence of copying by a major competitor. This rebuttal evidence was apparently not considered by the Examiner, contrary to Section 103(a) and MPEP 716. Instead the Examiner erroneously imposed a new, non-statutory burden upon

the Appellant to prove that one skilled in the art "would not be aware of various forms of attachment means."

The Examiner had the burden of presenting evidence that one skilled in the art would have been motivated to modify Hying's double-sided tape to arrive at the claimed invention. The Examiner had the additional burden of presenting evidence that there was a reasonable expectation of success for the proposed modification, and the prior art references had to teach or suggest all the claim limitations. The Examiner failed to meet his burden. Neither Section 103(a) nor the MPEP imposes upon Appellant the burden of proving the inverse of the Examiner's burden. Therefore, the Examiner misapplied Section 103(a) in rejecting the claims.

V. The evidence set forth in the Declaration of Jerry Ward of superior mechanical performance and huge manufacturing cost and labor savings associated with the present invention demonstrates the non-obviousness of the claimed invention.

Jerry Ward's Declaration includes evidence that backboards fabricated with elastomeric adhesive perform substantially better than backboards fabricated with double-sided tape in basketball impact testing. See, Jerry Ward Declaration, ¶¶ 4-9. The impact results, combined with the torque deflection test described in the specification at pages 9 and 10, demonstrate that backboards fabricated using catalyzed elastomeric adhesive possess overall better adhesion, flexibility, and durability than conventional double-sided tape. Jerry Ward Declaration, ¶ 10. Appellant submits that this superior performance of the claimed acrylic basketball backboard assembly is evidence that the claimed invention would not have been obvious from the cited prior art. MPEP 716.02(a).

The Jerry Ward Declaration also contains evidence of substantial manufacturing cost savings associated with the claimed invention. The assignee saves approximately \$3 per backboard in materials costs for each acrylic backboard fabricated using catalyzed elastomeric adhesive instead of conventional two-sided tape. In 2000 and 2001, this amounted to a savings of about \$2,100,000 in materials costs with the manufacture of about 700,000 acrylic backboard basketball systems. Jerry Ward Declaration, ¶ 11. This impressive materials cost savings is evidence that the claimed invention would not have been obvious. MPEP 716.02(a).

The Jerry Ward Declaration reports significant labor savings when acrylic backboards are fabricated using catalyzed elastomeric adhesive. The assignee can fabricate about 2400 acrylic backboard assemblies per day using twelve (12) people in three shifts using the catalyzed elastomeric adhesive process. In contrast, twenty-four (24) people in three shifts were required to fabricate 1800 acrylic backboard assemblies using the conventional two-sided tape system. Based upon this production rate, thirty-two (32) people would be required to fabricate 2400 acrylic backboard assemblies per day. The annual labor savings of about 62.5% represents a substantial cost savings. The extraordinary labor savings associated with the present invention is evidence that the claimed invention would not have been obvious. MPEP 716.02(a).

In summary, the Jerry Ward Declaration presented evidence of the superior mechanical performance, the significant materials cost savings, and the huge labor savings associated with the claimed acrylic basketball backboard assembly. If the invention were truly obvious, as the Examiner believes, then manufacturers would have never used double-sided tape in the first place which provides inferior mechanical performance, costs more, and requires substantially more labor than the present invention. Appellant submits that the totality of the evidence of record establishes the non-obviousness of the claimed invention. Reversal of the rejections and allowance of the pending claims is respectfully requested.

VI. The evidence set forth in the Declaration of S. Curtis Nye that a competitor has copied Appellant's invention demonstrates the non-obviousness of the claimed invention.

S. Curtis Nye's Declaration includes evidence that Lifetime Products began selling acrylic basketball backboards fabricated with elastomeric adhesive in about October 1999. See, S. Curtis Nye Declaration, ¶ 2. The Declaration further states that Huffy Sports, a division of Huffy Corporation, recently began selling acrylic basketball backboards fabricated with elastomeric adhesive. See, S. Curtis Nye Declaration, ¶ 3. Prior to this time, Huffy Sports used double-sided tape to fabricate acrylic backboards. Huffy Sports has copied Appellant's invention, which is evidence of non-obviousness. MPEP 716.06.

Copying is particularly evident when one considers that the primary reference, Hying et al. (assigned to Huffy Corporation) teaches that plastic retainers should be used to

fabricate acrylic backboards instead of double-sided tape. Huffy Sports recently replaced double-sided tape with elastomeric adhesive (not plastic retainers) after observing that Lifetime Products was able to successfully manufacture acrylic backboards fabricated with elastomeric adhesive. MPEP 716.06 explains that copying by a competitor is persuasive of nonobviousness when the competitor tried to solve the problem, but failed, or when the competitor expended great effort to develop its own solution. In this case, Huffy Sports expended great effort in relation to the Hying patent, which allegedly solved the problem associated with double-sided tape.

Appellant submits that the foregoing evidence of obviousness further establishes the non-obviousness of the claimed invention. Reversal of the rejections and allowance of the pending claims is respectfully requested.

SUMMARY

In view of the foregoing, each of the claims on appeal has been improperly rejected. Reversal of the Examiner's rejection and allowance of the pending claims 1, 2, and 4-18 is respectfully requested.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "E. R. Witt", is written over a horizontal line.

Evan R. Witt
Reg. No. 32,512
Attorney for Appellant

Date: November 14, 2001

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9. APPENDIX

Claims involved in the appeal

1. (amended) A basketball backboard assembly sized and configured for playing the game of basketball comprising:
 - a backboard frame structure having a bonding surface;
 - an acrylic backboard having a bonding surface; and
 - a catalyzed elastomeric adhesive sandwiched between the frame bonding surface and the backboard bonding surface, wherein the elastomeric adhesive provides sufficient adhesion and flexibility to the acrylic backboard and frame structure bonding surfaces to be used in the game of basketball.
2. A basketball backboard assembly according to claim 1, wherein the elastomeric adhesive has a bond gap in the range from about 2 to 2.5 mm (0.08 to 0.1 inch).
4. (amended) A basketball backboard assembly according to claim 1, wherein the elastomeric adhesive is catalyzed silicone adhesive.
5. (amended) A basketball backboard assembly according to claim 1, wherein the elastomeric adhesive is a two-part catalyzed adhesive in which the two parts are combined in a ratio to provide a set time in the range from about 7 to 15 minutes.
6. (amended) A basketball backboard assembly according to claim 1, wherein the elastomeric adhesive is a two-part catalyzed adhesive in which the two parts are combined in a ratio to provide a set time in the range from about 5 minutes to 1 hour.
7. (amended) A basketball backboard assembly according to claim 1, further comprising one or more bond gap spacers located between the frame bonding surface and the backboard bonding surface to provide a defined bond gap.
8. (amended) A basketball backboard assembly according to claim 7, wherein the one or more bond gap spacers comprise spherical beads.
9. A basketball backboard assembly according to claim 8, wherein the spherical beads comprise glass microspheres.
10. A basketball backboard assembly according to claim 9, wherein the glass microspheres have a diameter in the range from about 2 to 2.5 mm (0.08 to 0.1 inch).
11. A basketball backboard assembly according to claim 1, wherein the backboard frame structure is metal.
12. A basketball backboard assembly according to claim 1, wherein the backboard frame structure is painted metal.

13. A basketball backboard assembly according to claim 1, wherein the backboard bonding surface contains a printed image.

14. (twice amended) A basketball backboard assembly sized and configured for playing the game of basketball comprising:

a metal backboard frame structure having a bonding surface;

an acrylic backboard having a bonding surface; and

a catalyzed silicone adhesive sandwiched between the frame bonding surface and the backboard bonding surface, wherein the silicone adhesive has a bond gap in the range from about 2 to 2.5 mm, wherein the silicone adhesive is configured to provide a set time in the range from about 5 minutes to 1 hour, wherein the silicone adhesive provides sufficient adhesion and flexibility to the acrylic backboard and frame structure bonding surfaces to be used in the game of basketball; and

one or more bond gap spacers located between the frame bonding surface and the backboard bonding surface to provide the bond gap.

15. A basketball backboard assembly according to claim 14, wherein the silicone adhesive is configured to provide a set time in the range from about 7 to 15 minutes.

16. (amended) A basketball backboard assembly according to claim 14, wherein the one or more bond gap spacers comprise spherical beads.

17. A basketball backboard assembly according to claim 16, wherein the spherical beads comprise glass microspheres.

18. A basketball backboard assembly according to claim 17, wherein the glass microspheres have a diameter in the range from about 2 to 2.5 mm (0.08 to 0.1 inch).

**FEE TRANSMITTAL
for FY 2002**

Patent fees are subject to annual revision.

JAN 07 2002

Complete If Known

Application Number	09/228,325
Filing Date	January 11, 1999
First Named Inventor	Larry Stevens
Group Art Unit	3711
Examiner Name	Michael Chambers
Attorney Docket Number	1002.2.72

☒ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT \$ 320.00

METHOD OF PAYMENT (check all that apply)

☐ Check ☒ Credit card ☐ Money Order ☐ Other ☐ None☒ Deposit Account:Deposit Account
Number

13-0763

Deposit Account
Name

MADSON & METCALF

The Commissioner is authorized to: (check all that apply)

☐ Charge fee(s) indicated below ☐ Credit any overpayments☒ Charge any additional fee(s) during the pendency of this application☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account

FEE CALCULATION

1. BASIC FILING FEE

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
101	740	201	370	Utility filing fee	370
106	330	206	165	Design filing fee	
107	510	207	255	Plant filing fee	
108	740	208	370	Reissue filing fee	
114	160	214	80	Provisional filing fee	

SUBTOTAL (1)

0

2. EXTRA CLAIMS FEES FOR UTILITY AND REISSUE

Total Claims		Extra Claims Fee from below		Fee Paid
20	-20** =	0	x 9 =	0
3	-3** =	0	x 42 =	0
Multiple Dep. Claims		0	x 140 =	0

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
103	18	203	9	Claims in excess of 20	
102	84	202	42	Independent claims in excess of 3	
104	280	204	140	Multiple dependent claim	
109	84	209	42	**Reissue independent claims over original patent	
110	18	210	9	**Reissue claims in excess of 20 and over original patent	

SUBTOTAL (2)

0

**or number previously paid, if greater; For Reissues, see above

3. ADDITIONAL FEES

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
105	130	205	65	Surcharge - late filing fee or oath	
127	50	227	25	Surcharge - late provisional filing fee or cover sheet	
139	130	139	130	Non-English specification	
147	2520	147	2520	For filing a request for reexamination	
112	920*	112	920*	Requesting publication of SIR prior to Examiner action	
113	1840*	113	1840*	Requesting publication of SIR after Examiner action	
115	110	215	55	Extension for reply within first month	
116	400	216	200	Extension for reply within second month	
117	920	217	460	Extension for reply within third month	
118	1440	218	720	Extension for reply within fourth month	
128	1960	228	980	Extension for reply within fifth month	
119	320	219	160	Notice of Appeal	
120	320	220	160	Filing a brief in support of an appeal	320.00
121	280	221	140	Request for oral hearing	
138	1510	138	1510	Petition to institute a public use proceeding	
140	110	240	55	Petition to revive - unavoidable	
141	1280	241	640	Petition to revive - unintentional	
142	1280	242	640	Utility issue fee (or reissue)	
143	460	243	230	Design issue fee	
144	620	244	310	Plant issue fee	
122	130	122	130	Petitions to the Commissioner	
123	50	123	50	Processing fee under 37 CFR 1.17(q)	
126	180	126	180	Submission of Information Disclosure Stmt	
581	40	581	40	Recording each patent assignment per property (times number of properties)	
146	740	246	370	Filing a submission after final rejection (37 CFR 1.129(a))	
149	740	249	370	For each additional invention to be examined (37 CFR 1.129(b))	
179	740	279	370	Request for Continued Examination (RCE)	
169	900	169	900	Request for expedited examination of a design application	

Other fee (specify) _____

*Reduced by Basic Filing Fee

SUBTOTAL (3)

320

SUBMITTED BY

Complete (if applicable)

Typed or Printed Name Evan R. Witt

Reg. Number 32,512

Signature

Date

Nov 14, 2001

Deposit Account
User ID

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